

ADMINISTRATIVE-INTERNAL USE LV

DATA CENTER OPERATIONS BRANCH

NDS OPERATIONS PROCEDURE MANUAL
NO. P-D004

APPLICATIONS SOFTWARE
13 April 1983

DIRAZM PROGRAM

SYMBOLIC TITLE: DIRAZM
PROGRAMMER:

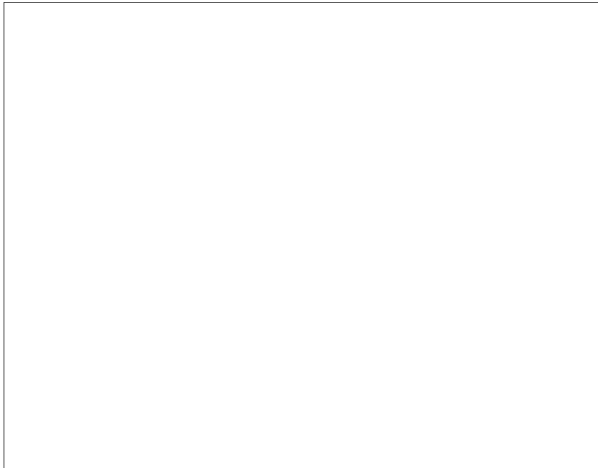
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APPROVALS

This operations manual has been reviewed and approved by the following persons:



4 Feb 82
(date)

2/5/82
(date)

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1. SUMMARY

Given a pair of points (point 1 and point 2) and given the geodetic latitude and longitude of point 1, the azimuth from point 1 to point 2, and the distance from point 1 to point 2, DIRAZM computes and prints--

- a. The geodetic latitude and longitude of point 2.
- b. The azimuth from point 2 to point 1.

The program can make computations on more than one pair of points.

2. INPUT

The following items must be input to DIRAZM for each pair of points.

- a. Ellipsoid - Eight ellipsoids are available. You will input the mnemonic for the ellipsoid you have chosen. The ellipsoid must be specified for each pair of points. The ellipsoids are listed below:

WGS-72
WGS-66
WGS-60
KVV
Bessel
Clarke
International
AMS

- b. Latitude and longitude of point 1. You must input degrees and direction; you may also input minutes and seconds. Decimal portions of degrees, minutes and seconds may be input if known.
- c. Units of distance - the distance between points 1 and 2 may be measured in feet, meters, statutory miles, or nautical miles.
- d. Azimuth from point 1 to point 2. You must input degrees; you may also input minutes and seconds.

3. DATA CARDS

You will need six data cards for each pair of points. One data card will indicate the ellipsoid. The remaining five cards will show the latitude of point 1, the longitude of point 1, the azimuth from point 1 to point 2, the unit of distance used in measuring the distance between the two points, and the distance between point 1 and point 2.

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4. ARRANGING YOUR CARD DECK

Your card deck should be arranged as shown below.

```

1: @RUN      DIRAZM,S33741016/I# ANCH,XOT
2: @SYM,D POINTS
3: @ASG,A   XOT*P#ABS.
4: @COPY,A  XOT*P#ABS.DIRAZM,TP#S.
5: @FREE,R  XOT*P#ABS.
6: @XOT     DIRAZM
7: WGS-72
8: LATITUDE PARAMETER CARD
9: LONGITUDE PARAMETER CARD
10: AZIMUTH PARAMETER CARD
11: UNIT OF MEASUREMENT PARAMETER CARD
12: DISTANCE BETWEEN POINTS PARAMETER CARD
13: EOT*
14: @BRKPT POINTS
15: @FIN

```

Other sets of data cards would be inserted after card #12 if there were more than one set of input points.

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5. THE OUTPUT

DIRAZM outputs a printer listing. An example is shown below.

```

9: @FREE-R XOT*WSABS.
9: READY
10: @XQT DIRAZM
11: ELLIPSOID WGS-72
12: P1-P2 099.00 09.0 40.07
13: 00000 25.11 052STAT FILES
14: LATITUDE1 X 20.00 0.0 0.0
15: LONGITUDE1 X 040.00 0.0 0.0
16: P2-P1 269.99999619
17: LATITUDE2 X 20.000 01.000 01.000
18: LONGITUDE2 X 045.000 00.000 07.56S
19:
20:
21: @BRKP1 PRINTS

```

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```

*FIN
ZBRKPT PRINT$
EOT*
00000325,11052
STAT MILES
089.00 08.0 40.07
X 040.00 0.0 0.0
X 20.00 0.0 0.0
NGS-72
XOT DIRAZM
*FREE,R XOT*P$ABS.
*COPY,A XOT*P$ABS.DIRAZM,TPF$.
*ASG,A XOT*P$ABS.
*SYM,D PRINT$

```

DIRAZH, S33741016/IVANCH, ROT

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[illegible]